

High Contrast License Plate Capture Camera

INSTALLATION & OPERATION MANUAL



Before attempting to connect or operate, please read and follow these instructions.

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1. Cautions

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions;

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Note -

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING -

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Caution -

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CAUTION

1. If DC power is used a regulated DC12V 1A power supply is recommended for use with this camera for the best picture and the most stable operation.
An unregulated power supply can cause damage to the camera.
If an unregulated power supply is used, product warranty will be void.
2. It is recommended that the camera is used with a monitor or other equipment that has a CCTV quality 75 video impedance level.
3. Do not attempt to disassemble the camera to gain access to the internal components. Refer servicing to the manufacturer.
4. Never face the camera towards the sun, any bright, or reflective light that may cause smear on the picture or cause possible damage to the CCD.
5. **Do not remove the serial number sticker.**

1. Cautions



Correct Disposal of This Product (Waste Electrical & Electronic Equipment)



(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicate that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

This product should not be mixed with other commercial wastes. Contact the company where you purchased this product or your local government office for details on how to properly dispose or recycle the product to be environmentally safe.

Business users should contact their supplier and check the terms and conditions of the purchase contract.

Household users should contact the retailer for proper disposal procedures.



CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN



CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

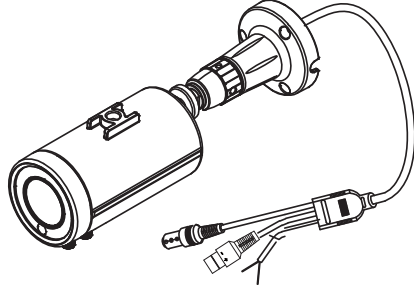
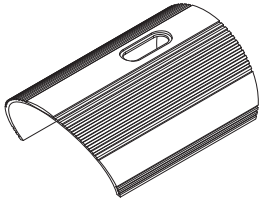


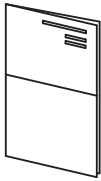


This symbol is intended to alert the user to the presence of important operating and maintenance(servicing) instructions in the literature accompanying the appliance.

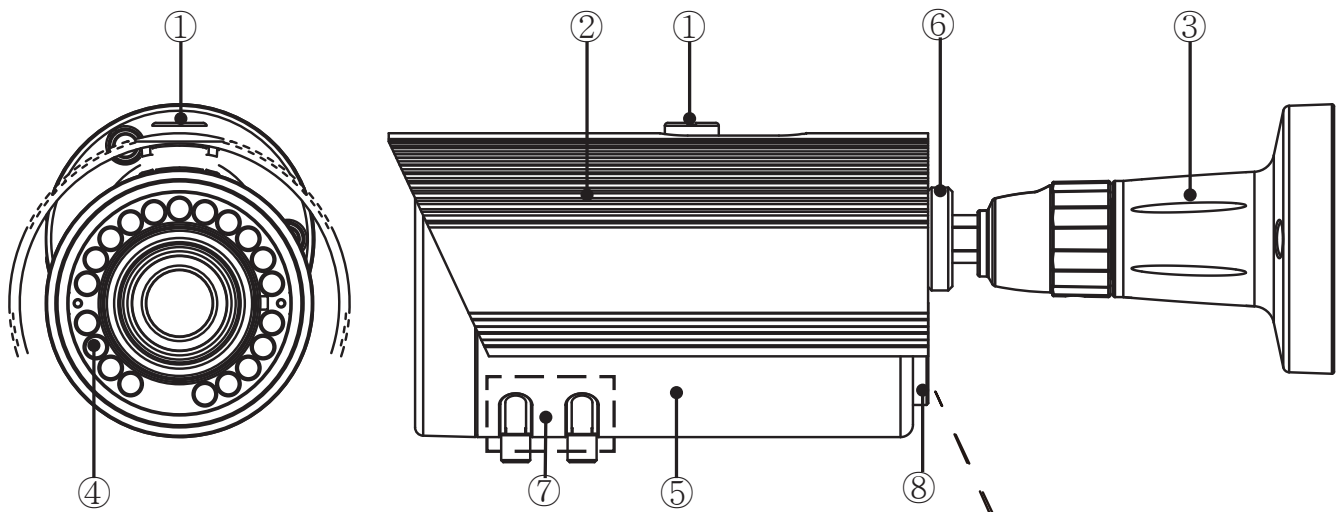
2. Features

- 1/3" Sony Super-HAD CCD ||
- OSD Menu system customizes performance to match application
- High Resolution 600TV Lines
- Special filter and IR LEDs provide maximum readability despite headlight glare
- Plate capture up to 35mph (56Km/H)
- 9.0 ~ 22.0mm Varifocal lens captures license plate from 8ft ~ 33ft (2.5M ~ 10M)
- IP66 rated weather resistant
- Cable concealed through bracket
- DC12V / AC24V Dual power with auto-polarity

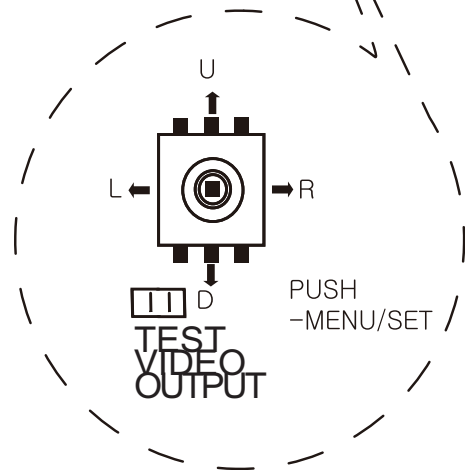
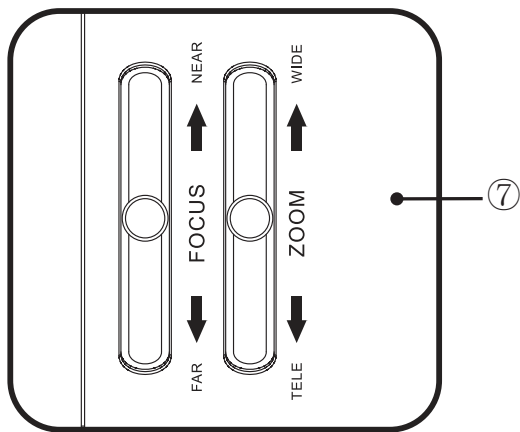
3. Items Provided In The Box

CAMERA	
SUNSHIELD	
VIDEO OUTPUT TEST CABLE	
L-WRENCH / SCREW & Plastic anchor - 3ea / SUNSHIELD FIXING BOLT	
OPERATION MANUAL	

4. Component and Control Names and Functions



- ① Sunshield Lock Bolt
- ② Sunshield
- ③ Mounting Bracket
- ④ IR LED : 20ea
- ⑤ Camera Body
- ⑥ Body Lock Ring
- ⑦ External Zoom and Focus adjustments



⑧ Cover To Access Menu Controls & Test Video Output

Pressing the "SETUP" button prompts the main setup menu.

"PUSH" button : To access the main setup menu

"U" Direction : Menu item UP selection

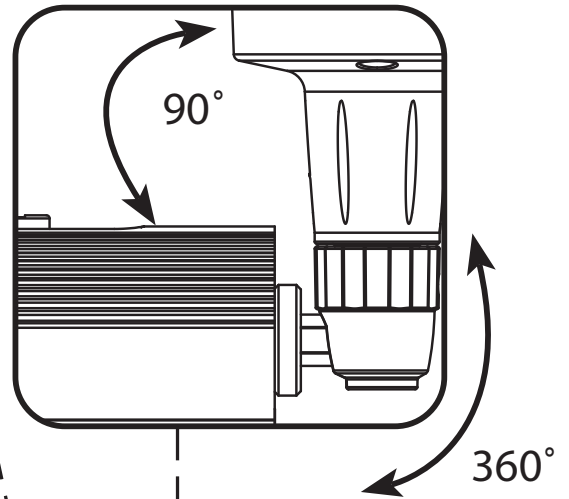
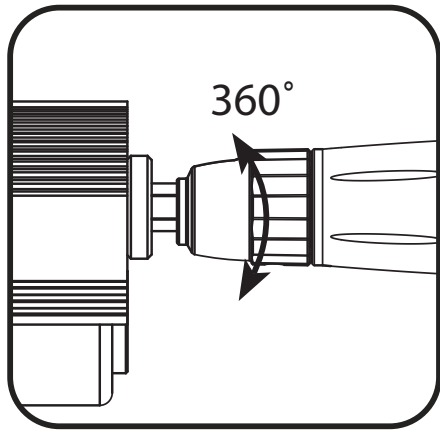
"D" Direction : Menu item DOWN selection

"L" Direction : To change data or decrease value

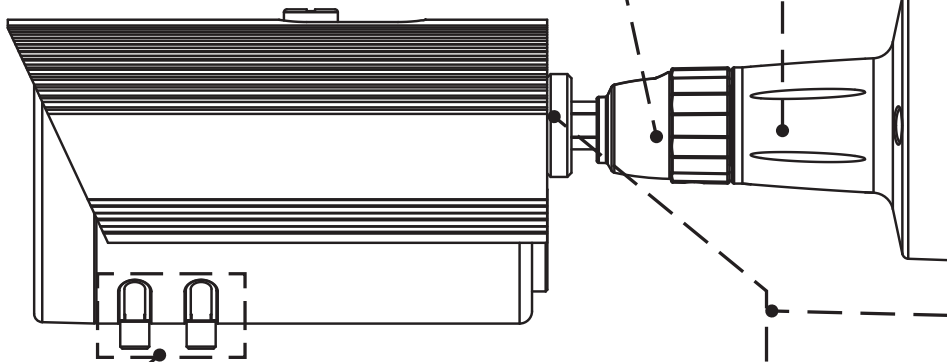
"R" Direction : To change data or increase value

5. Installation

• ADJUSTING CAMERA POSITION



Loosen socket head allen screws to change angle and/or rotate body about base.



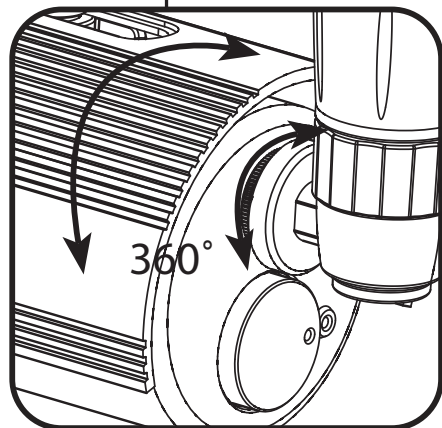
Loosen this lock ring to rotate camera body.



After adjusting zoom and focus, to prevent water infiltration, firmly tighten the zoom and focus levers.

WARNING!

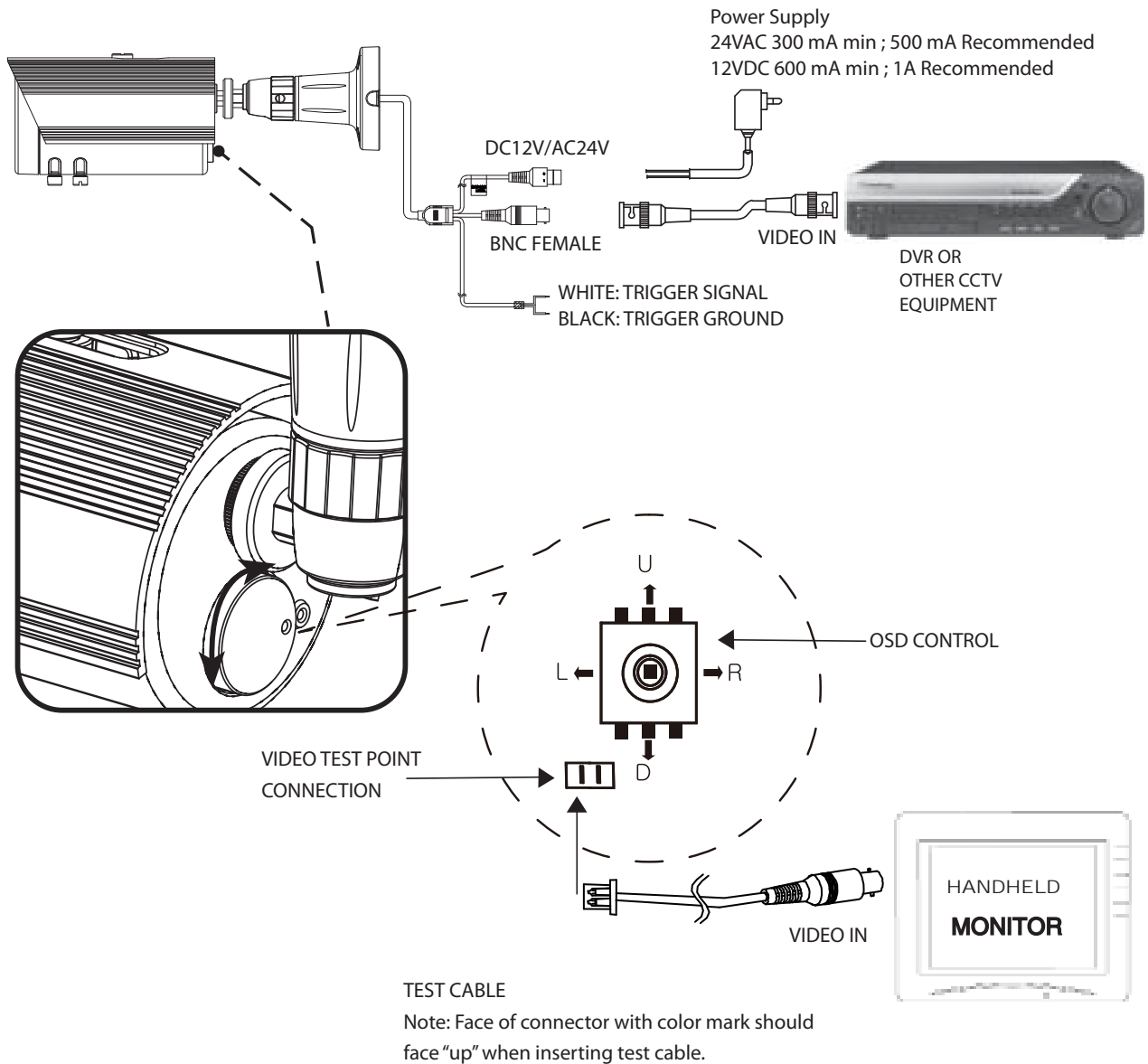
To prevent injury, this apparatus must be securely attached to the mounting surface with sufficient strength to hold the weight of the camera including wind and snow loading in accordance with the installation instructions.




5. Installation

• CONNECTIONS

DUAL(DC12V/AC24V)



 When you install the camera, please seal the end of cable to protect the camera connections from humidity problems.

6. OSD Functions

OSD Menu Structure

- **OSD Access**

To access OSD menu unscrew cover plate on rear of camera, press "in" on joystick to access OSD Menu.

- **MODE**

- **INSTALLATION**

Installation Mode provides a bright video screen to adjust angle and focus.

- **LICENSE-PLATE**

License-plate Mode provides high contrast and clear license plate image for license plate capture.

- **SHUTTER**

1/250, 1/500, 1/1,000 ~ 1/10,000.

(After 1/1000sec, 1/500sec unit adjustment)

- Adjusted when LICENSE-PLATE MODE is performed.

(Initial value: 1/250)

- Indicated "---" when INSTALLATION MODE is set.

* Depending on the vehicle speed, you may adjust camera SHUTTER SPEED

- **FREEZE**

The video screen will automatically go in to FREEZE mode when Camera is triggered by sensors connected to the trigger input.

User can set the freeze time to 3, 5, or 10 sec.

- **NEGATIVE**

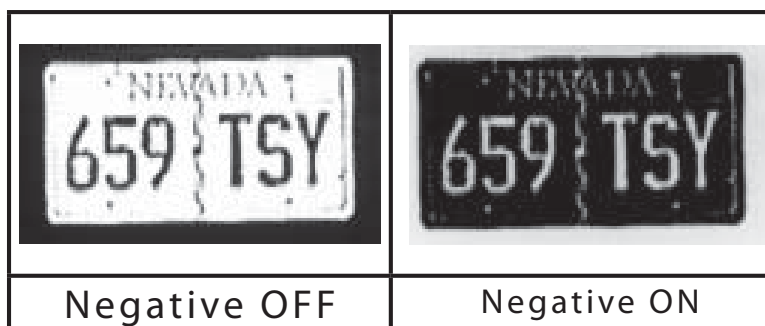
User can select positive or negative image.

SETUP	
▶ MODE	LICENSE-PLATE
SHUTTER	1/250
FREEZE-TIME	5SEC
NEG. IMAGE	OFF
EXIT	

SETUP	
MODE	LICENSE-PLATE
▶ SHUTTER	1/250
FREEZE-TIME	5SEC
NEG. IMAGE	OFF
EXIT	

SETUP	
MODE	LICENSE-PLATE
SHUTTER	1/250
▶ FREEZE-TIME	5SEC
NEG. IMAGE	OFF
EXIT	

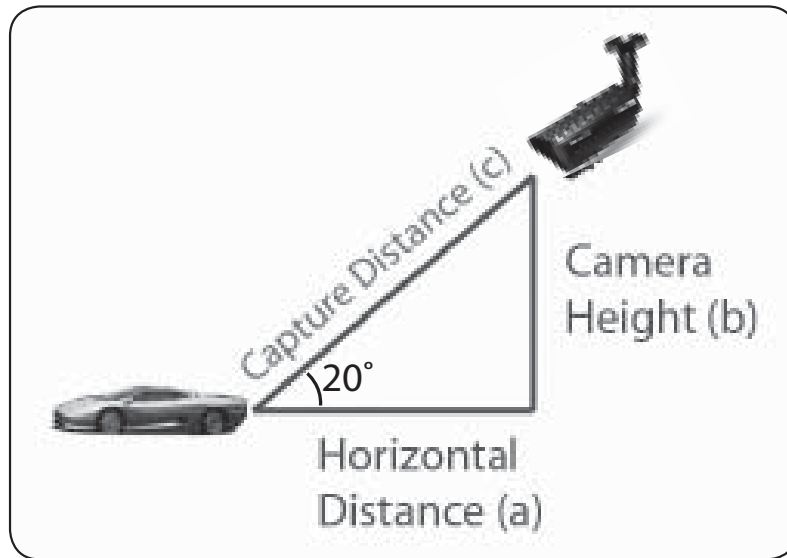
SETUP	
MODE	LICENSE-PLATE
SHUTTER	1/250
FREEZE-TIME	5SEC
▶ NEG. IMAGE	OFF
EXIT	



7. Installation Guidelines

Camera Height

- Consider camera height in distance calculation.
- Sharper angles will alter the appearance of the plate.
(Shallow angles are recommended)

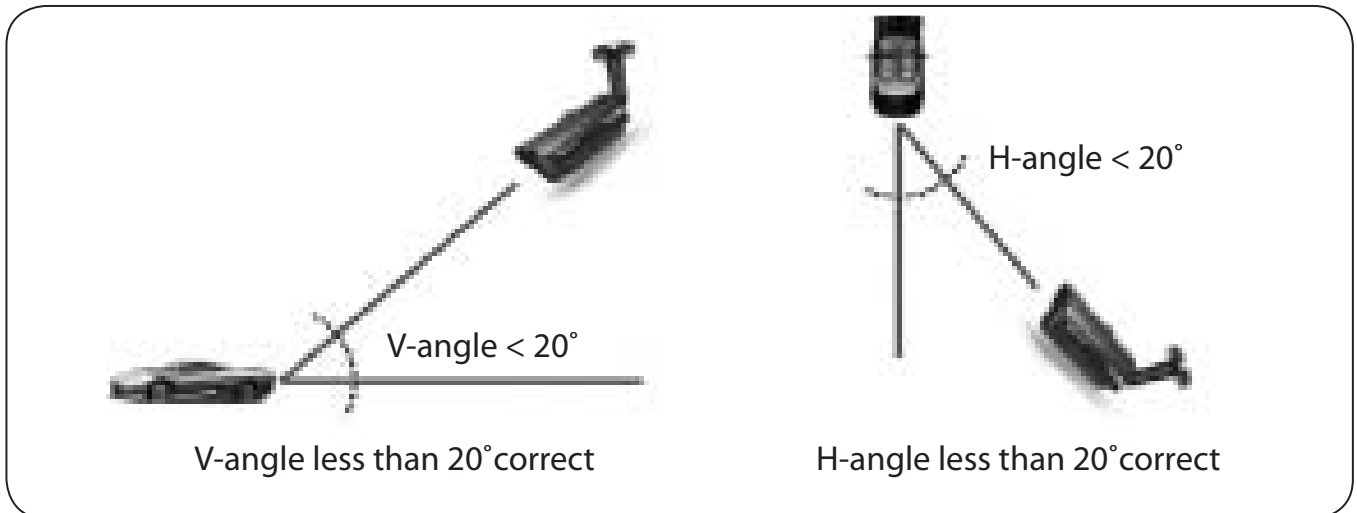


Camera Height (ft)	Horizontal Distance (ft)	Capture Distance (ft)
2.74	7.52	8
3.76	10.34	11
4.79	13.16	14
5.81	15.97	17
6.84	18.79	20
7.87	21.61	23
8.89	24.43	26
9.92	27.25	29
11.29	31	33

7. Installation Guidelines

Camera Angles

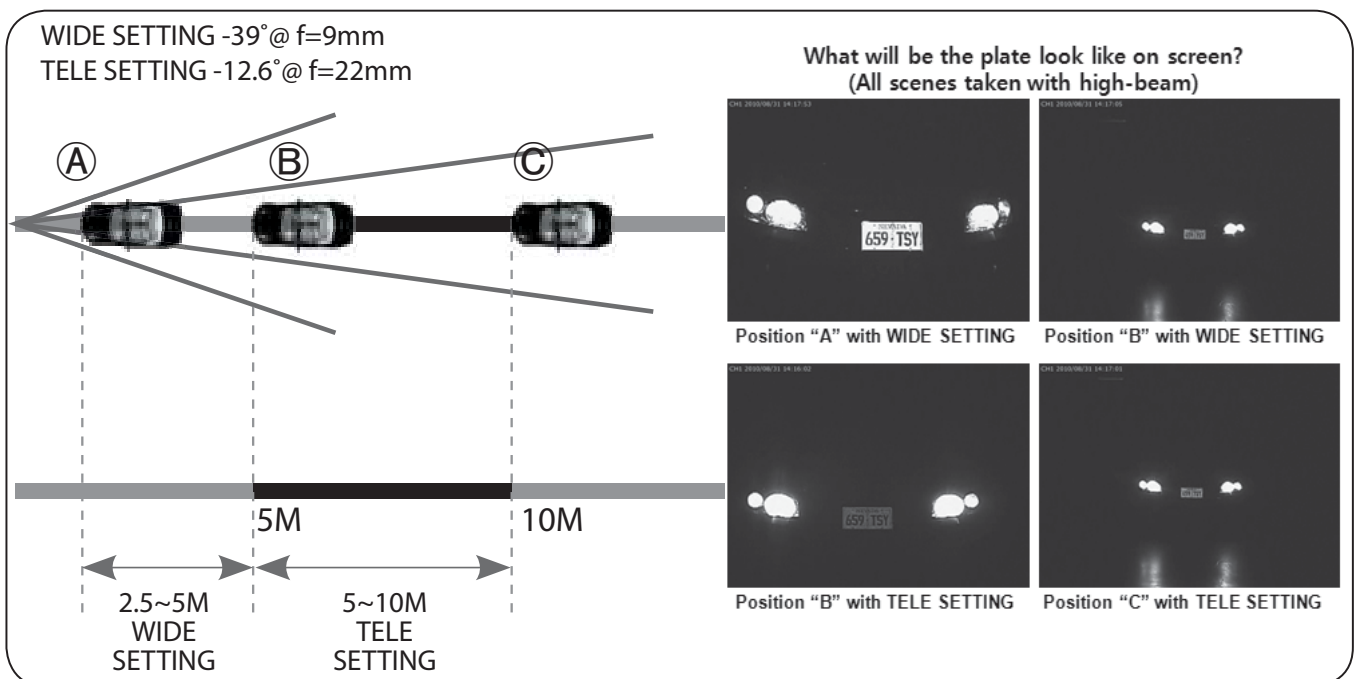
- Vertical and horizontal angle must not exceed 20 degrees to achieve proper view of the license plate.



- Both horizontal and vertical angles affect maximum capture distance.
- Increasing either or both angles will decrease maximum capture distance.

Capture Zone

- Wider angles provide shorter capture distance.
- Tele angles provide longer capture distance.

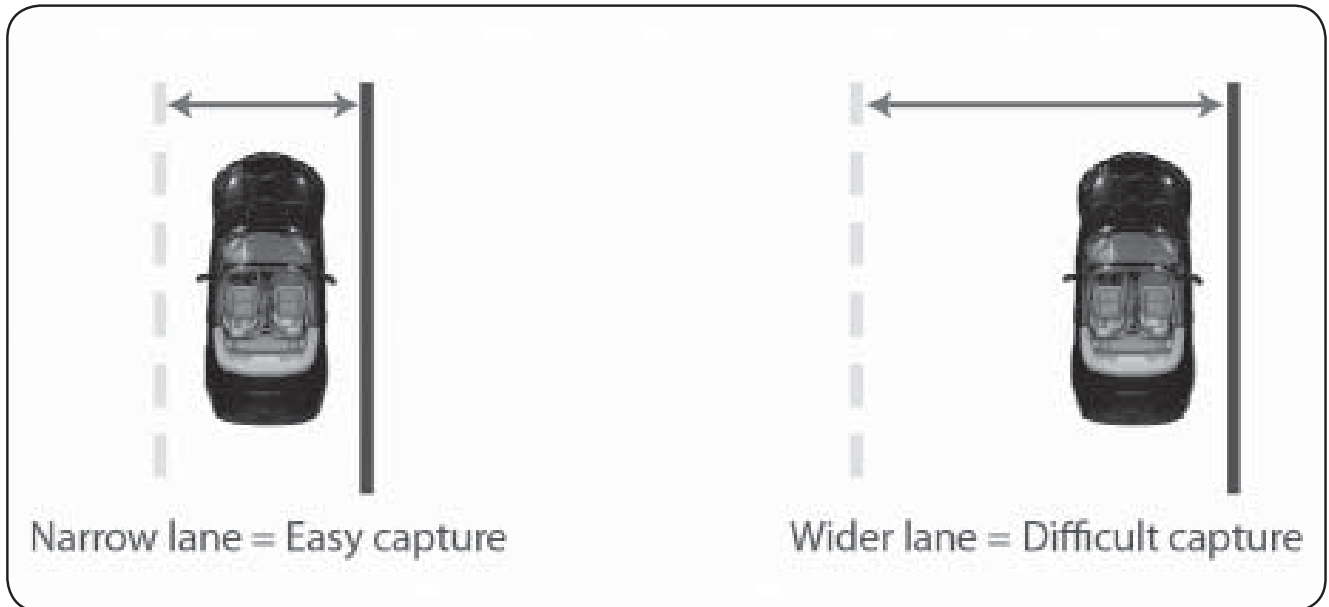


< NOTE: Red and white color license plate number can not be recognized >

7. Installation Guidelines

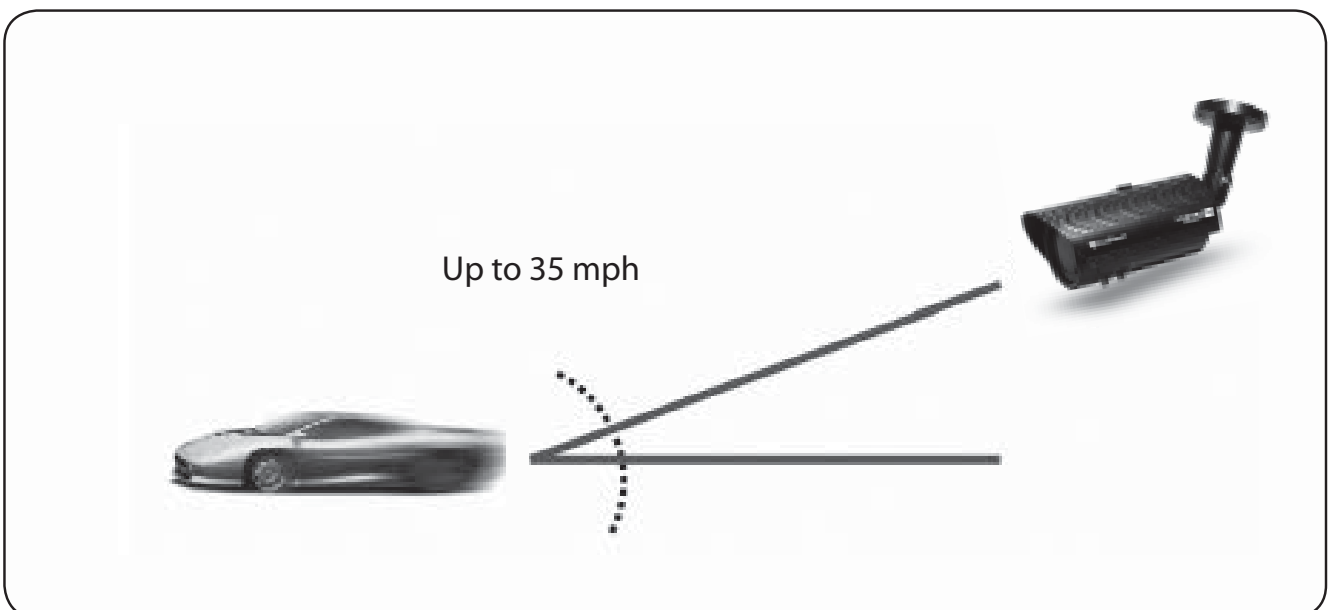
Lane Width

- Narrow lanes = less variation in plate location.
- Wider lanes = more variation in plate location.
- Lens should cover entire width of the lane.
- Ensure horizontal field of view is wide enough.



Speed

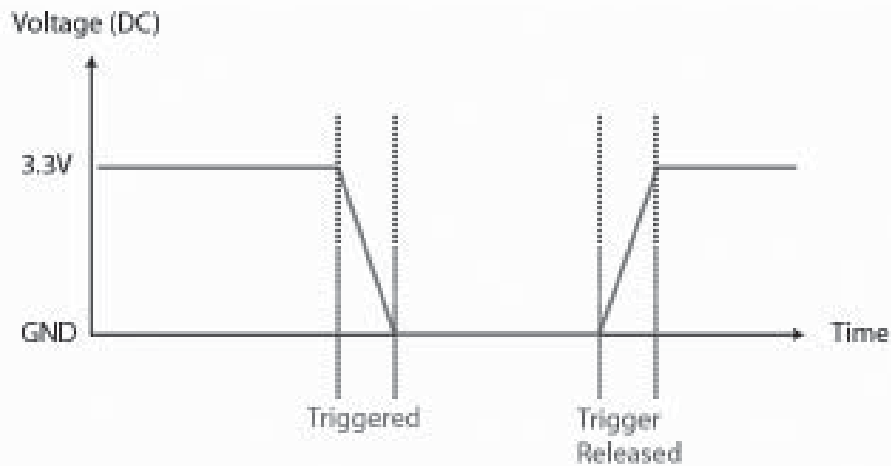
- Camera can capture moving vehicles up to 35mph.
(SHUTTER Speed less than 1/500)
- Keep camera as low as possible.
- Minimize horizontal angle.
- Zoom in the lens as close as possible.



7. Installation Guidelines

Trigger

- Camera provides a trigger input is for freezing the video screen.
- Connect to external sensor e.g. Parking Gate Sensor.
- Trigger input should be pulled-up 3.3V DC in normal condition.
- Input line will be triggered when pull-up 3.3V DC drop to GND.



DVR

- Camera is fully compatible with industry standard DVRs.
- Check compression settings.
- For best results use non-conditional refresh compression. (i.e. MJPEG or JPEG)
(Other Video codecs can sometimes cause an indistinct picture)
- Use 30fps (each channel) for best results.
- DVR Set

Interlace DVR	720 x 240
Deinterlace DVR	720 x 480

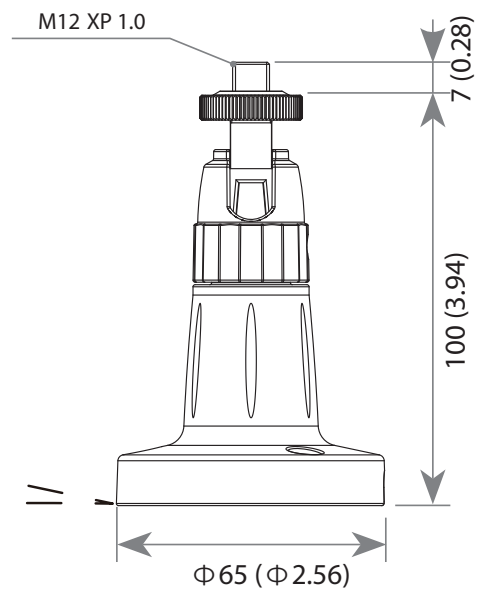
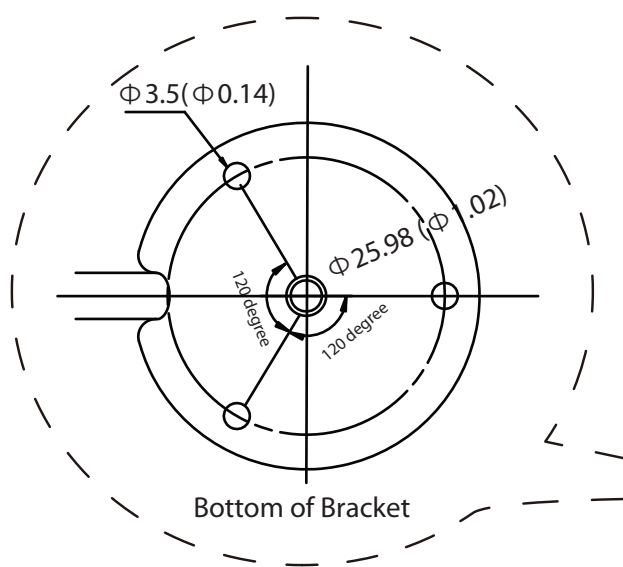
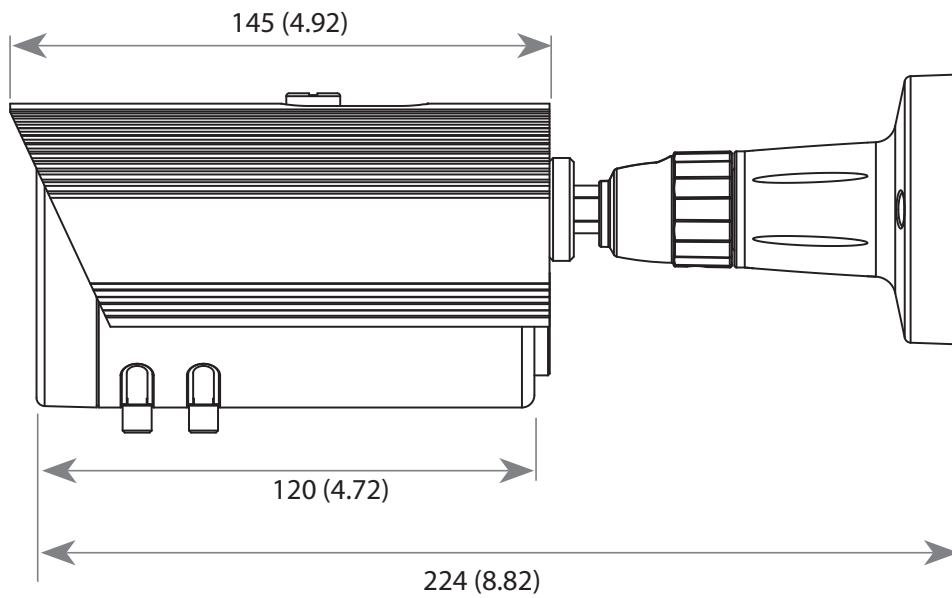
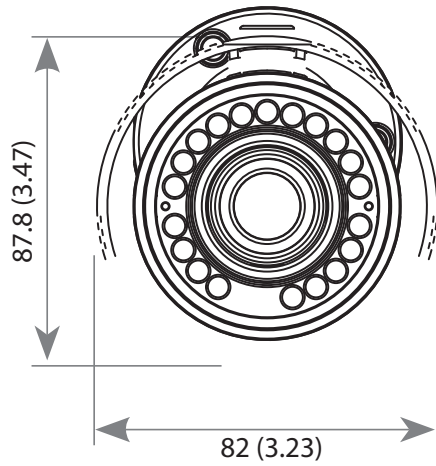
8. Specifications

Signal Format	NTSC	PAL
Image Device	1/3" Sony Super HAD CCD II	
Total Pixels	811(H) x 508(V)	795(H) x 596(V)
Effective Pixels	768(H) x 494(V)	752(H) x 582(V)
Inter. H/V	15.734KHz(H), 59.94Hz(V)	15.625KHz(H), 50Hz(V)
H.Resolution	600TV Lines	
Minimum illumination	0 Lux (IR LED ON)	
S/N Ratio	More than 50dB (AGC Off)	
Sync System	Internal	
Video Output	1.0 Vp-p Composite(75Ω)	
Lens	Varifocal (9~22mm) Auto Iris	
IR LED	850nm, 20ea	
IP Rating	IP66	
License Plate Capture	Speed Range	Up to 35mph (56km/h)
	Capture Distance	8ft ~ 33ft (2.5m ~ 10m)
	Capture Angle	Maximum 20 degree offset
Operating Temperature	14°F~122°F(-10°C ~ +50°C)	
Storage Temperature	-4°F~140°F(-20°C ~ +60°C)	
Power consumption	DC12V ±10% Max 570mA AC24V ±10% Max 6.7W	
Weight	Approx. 1000g (2.20 lb)	
Dimension	82mm x 79.3mm (3.23inch x 3.12inch)	

Specifications and designs are subject to change without notice for improving the functionality of this product.

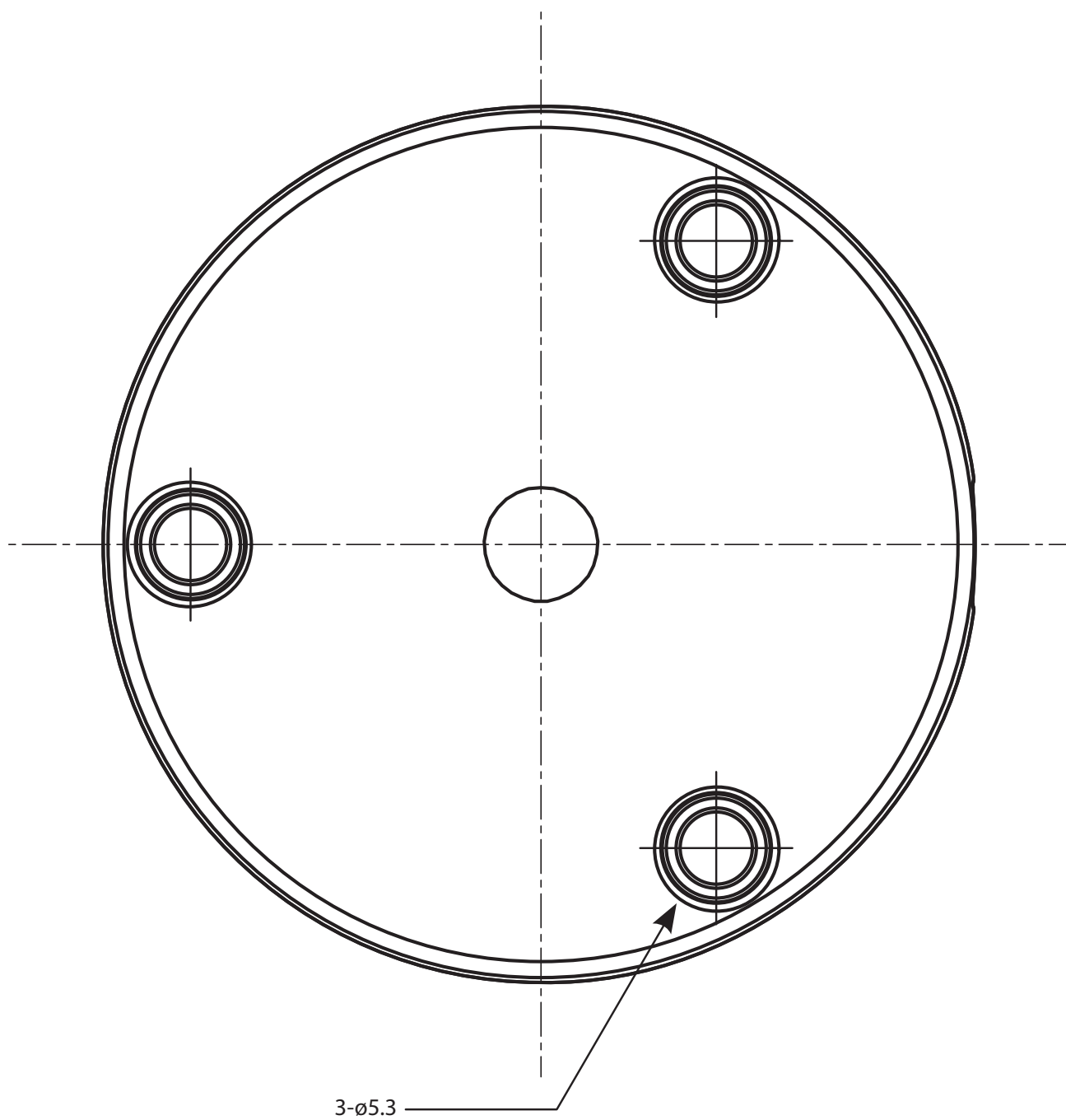
9. Dimensions

unit: mm(inch)



MEMO

Mount Guide



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	<p>Your EverFocus product is designed and manufactured with high quality materials and components which can be recycled and reused.</p> <p>This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from your household waste.</p> <p>Please, dispose of this equipment at your local community waste collection/recycling centre.</p> <p>In the European Union there are separate collection systems for used electrical and electronic product.</p> <p>Please, help us to conserve the environment we live in!</p>	<p>Ihr EverFocus Produkt wurde entwickelt und hergestellt mit qualitativ hochwertigen Materialien und Komponenten, die recycelt und wieder verwendet werden können.</p> <p>Dieses Symbol bedeutet, dass elektrische und elektronische Geräte am Ende ihrer Nutzungsdauer vom Hausmüll getrennt entsorgt werden sollen.</p> <p>Bitte entsorgen Sie dieses Gerät bei Ihrer örtlichen kommunalen Sammelstelle oder im Recycling Centre.</p> <p>Helfen Sie uns bitte, die Umwelt zu erhalten, in der wir leben!</p>
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